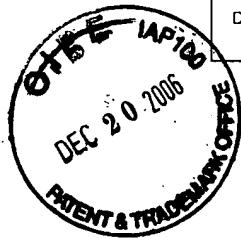


STW
Box 501

I hereby certify that this paper (along with any paper referred to as being attached or enclosed) is being deposited with the U.S. Postal Service on the date shown below with sufficient postage as First Class Mail, in an envelope addressed to: MS Sequence, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

Dated: December 18, 2006 Signature: *Stephanie R. Douglas*
(Stephanie R. Douglas)



Docket No.: 0286336.00155US1/NOR016CP2
(PATENT)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Richard L. BOYD Confirmation No.: 2793
Application No.: 10/748,831 Art Unit: 1633
Filed: December 30, 2003 Examiner: Q. Nguyen
Title: HEMATOPOIETIC STEM CELL GENE THERAPY

MS Sequence
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

RESPONSE TO NOTICE TO COMPLY WITH REQUIREMENTS
FOR PATENT APPLICATION CONTAINING NUCLEOTIDE
SEQUENCE AND/OR AMINO ACID SEQUENCE DISCLOSURES

Dear Sir:

This is in response to the Notice To Comply With Requirements For Patent Applications Containing Nucleotide Sequence and/or Amino Acid Sequence Disclosures, dated November 28, 2006. Applicants are submitting their response herewith within the two-month response period set to expire on January 28, 2007.

The U.S. Patent and Trademark Office has taken the position that the previous "Sequence Listing" in computer readable form did not comply with the requirements of Section 1.824 for the stated reason that it contained several raw sequence listing errors. Submitted herewith in connection with the above-referenced patent application please find the following:

1. Copy of the Notice to Comply, mailed November 28, 2006;
2. Amendment and Response in Accordance with 37 CFR 1.821-1.825;
3. Statement to Support Filing and Submission in Accordance with 37 CFR 1.821-1.825;
4. Written copy of Sequence Listing;
5. Diskette copy of Sequence Listing; and
6. Return postcard.

Applicants respectfully request the above-referenced patent application be placed upon the files for examination.

Respectfully submitted,

Dated: 12/18/06

Ann-Louise Kerner

Ann-Louise Kerner, Ph.D.

Registration No.: 33,523

Attorney for Applicant(s)

Wilmer Cutler Pickering Hale and Dorr LLP
60 State Street
Boston, Massachusetts 02109
(617) 526-6000 (telephone)
(617) 526-5000 (facsimile)



UNITED STATES PATENT AND TRADEMARK OFFICE



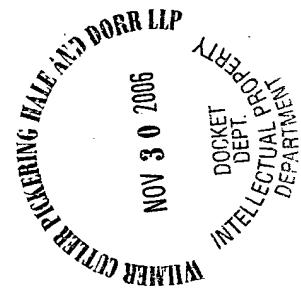
UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/748,831	12/30/2003	Richard L. Boyd	NOR-016CP2 and 286336.155	2793
23483	7590	11/28/2006		EXAMINER
				NGUYEN, QUANG
			ART UNIT	PAPER NUMBER
				1633

DATE MAILED: 11/28/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

WILMER CUTLER PICKERING
HALE and DORR LLP DOCKETING
RE: 286336.155 US
Action Date: _____
Action to be Taken: _____
Docketed By: QH On: 11/30/06





UNITED STATES PATENT AND TRADEMARK OFFICE

COMMISSIONER FOR PATENTS
UNITED STATES PATENT AND TRADEMARK OFFICE
WASHINGTON, DC 20231
www.uspto.gov

APPLICATION NO. 10/748,831	FILING DATE 12/30/2003	FIRST NAMED INVENTOR Boyd, R.L.	ATTORNEY DOCKET NO. NOR-016CP2 and 286336.1555
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EXAMINER

Quang Nguyen

ART UNIT

PAPER

1633

DATE MAILED:

Please find below and/or attached an Office communication concerning this application or proceeding.

Notice To Comply

With Requirements For Patent Applications Containing Nucleotide Sequence And/Or Amino Acid Sequence Disclosures.

This application contains sequence disclosures that are encompassed by the definitions for nucleotide and/or amino acid sequences set forth in 37 CFR 1.821(a)(1) and (a)(2). However, this application fails to comply with the requirements of 37 CFR 1.821 through 1.825 for the reason(s) set forth on the attached Notice To Comply With Requirements For Patent Applications Containing Nucleotide Sequence And/Or Amino Acid Sequence Disclosures.

Specifically the application fails to comply with CFR 1.821(d), which states:

(d) Where the description or claims of a patent application discuss a sequence that is set forth in the "Sequence Listing" in accordance with paragraph (c) of this section, reference must be made to the sequence by use of the sequence identifier, preceded by "SEQ ID NO:" in the text of the description or claims, even if the sequence is also embedded in the text of the description or claims of the patent application (see MPEP 2422.03).

For compliance with sequence rules, it is necessary to include the sequence in the "Sequence Listing" and identify them with SEQ ID NO. In general, any sequence that is disclosed and/or claimed as a sequence, i.e., as a string of particular bases or amino acids, and that otherwise meets the criteria of 37 CFR 1.821(a), must be set forth in the "Sequence Listing." (see MPEP 2422.03).

The instant specification fails to comply with the requirements for patent applications containing amino acid and nucleotide sequence disclosures because at least short peptide sequences on page 96, lines 23-24; page 97, line 2; page 99, line 22; page 102, line 2 were not assigned with SEQ ID NOs. Applicants have also not filed a sequence listing for these short peptide sequences in a paper format and in a CRF.

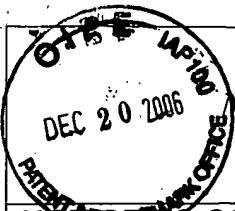
For the response to this office action to be complete, Applicants are required to comply with the Requirements For Patent Applications Containing Nucleotide Sequence And/Or Amino Acid Sequence. Applicant must comply with the requirements of the sequence rules (37 CFR 1.821 - 1.825) before the application can be examined under 35 U.S.C. §§ 131 and 132.

APPLICANT IS GIVEN ONE MONTH FROM THE DATE OF THIS LETTER WITHIN WHICH TO COMPLY WITH THE SEQUENCE RULES, 37 C.F.R. §§ 1.821-1.825. Failure to comply with these requirements will result in ABANDONMENT of

the application under 37 C.F.R. § 1.821(g). Extensions of time may be obtained by filing a petition accompanied by the extension fee under the provisions of 37 C.F.R. § 1.136. In this case may an applicant extend the period for response beyond the SIX MONTHS statutory period. Direct the response to the undersigned. Applicant is requested to return a copy of the attached Notice to Comply with the response.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Quang Nguyen, Ph.D., whose telephone number is (571) 272-0776. If attempts to reach the examiner by telephone are unsuccessful, the examiner's SPE, Joseph T. Woitach, may be reached at (571) 272-0739.

QUANG NGUYEN, PH.D
PATENT EXAMINER



Notice to Comply

Application No.

10/748,831

Applicant(s)

Boyd, R.D.

Examiner

Art Unit

Quang Nguyen

1633

**NOTICE TO COMPLY WITH REQUIREMENTS FOR PATENT APPLICATIONS CONTAINING
NUCLEOTIDE SEQUENCE AND/OR AMINO ACID SEQUENCE DISCLOSURES**

Applicant must file the items indicated below within the time period set the Office action to which the Notice is attached to avoid abandonment under 35 U.S.C. § 133 (extensions of time may be obtained under the provisions of 37 CFR 1.136(a)).

The nucleotide and/or amino acid sequence disclosure contained in this application does not comply with the requirements for such a disclosure as set forth in 37 C.F.R. 1.821 - 1.825 for the following reason(s):

- 1. This application clearly fails to comply with the requirements of 37 C.F.R. 1.821-1.825. Applicant's attention is directed to the final rulemaking notice published at 55 FR 18230 (May 1, 1990), and 1114 OG 29 (May 15, 1990). If the effective filing date is on or after July 1, 1998, see the final rulemaking notice published at 63 FR 29620 (June 1, 1998) and 1211 OG 82 (June 23, 1998).
- 2. This application does not contain, as a separate part of the disclosure on paper copy, a "Sequence Listing" as required by 37 C.F.R. 1.821(c).
- 3. A copy of the "Sequence Listing" in computer readable form has not been submitted as required by 37 C.F.R. 1.821(e).
- 4. A copy of the "Sequence Listing" in computer readable form has been submitted. However, the content of the computer readable form does not comply with the requirements of 37 C.F.R. 1.822 and/or 1.823, as indicated on the attached copy of the marked -up "Raw Sequence Listing."
- 5. The computer readable form that has been filed with this application has been found to be damaged and/or unreadable as indicated on the attached CRF Diskette Problem Report. A Substitute computer readable form must be submitted as required by 37 C.F.R. 1.825(d).
- 6. The paper copy of the "Sequence Listing" is not the same as the computer readable from of the "Sequence Listing" as required by 37 C.F.R. 1.821(e).
- 7. Other:

Applicant Must Provide:

- An initial or substitute computer readable form (CRF) copy of the "Sequence Listing".
- An initial or substitute paper copy of the "Sequence Listing", as well as an amendment directing its entry into the specification.
- A statement that the content of the paper and computer readable copies are the same and, where applicable, include no new matter, as required by 37 C.F.R. 1.821(e) or 1.821(f) or 1.821(g) or 1.825(b) or 1.825(d).

For questions regarding compliance to these requirements, please contact:

For Rules Interpretation, call (703) 308-4216

For CRF Submission Help, call (703) 308-4212

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